

Application Number: 10/626,391

Reply To Office Action Of DECEMBER 17, 2004

Amendments to the Claims

1. (Currently Amended) A mold assembly comprising:

a first mold section with a recess;
a second mold section, wherein said first and second mold sections define, at least in part, defining a mold cavity for receiving a molding material and forming a molded device; and
a silicon mold member disposed in said mold recess eavity, said silicon mold member with a mold surface facing said mold cavity, said mold surface having a contoured surface and comprising a plurality of micron or submicron size structural features defining an impression for molding said molded device including at least one needle forming recess for forming a device having at least one sharp edge.

2. (Original) The assembly of claim 1, wherein said mold member includes a plurality of recesses, about 5 to 250 microns deep.

3. (Original) The assembly of claim 1, wherein said mold cavity has a plurality of side walls and a bottom surface, and said silicon mold member is bonded to said bottom surface.

4. (Original) The assembly of claim 3, wherein said silicon mold member has an outer peripheral edge corresponding to the shape of said mold cavity, wherein said silicon mold member substantially covers said bottom surface of said mold cavity.

5. (Original) The assembly of claim 4, wherein said mold surface of said silicon mold member is substantially flat.

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6. (Currently Amended) The assembly of claim 1, wherein said needle forming recesses in said mold surface are spaced apart uniformly to form rows and columns, each of said recesses having a depth of about 5 to about 250 microns and said recesses being spaced to provide a density of about 4 to about 100 of said recesses per mm².
7. (Currently Amended) An apparatus for making said molded device comprising a plurality of micron or sub-micron size structural features, said apparatus comprising:
- a means for containing a mold assembly having a mold section with a recess defining a mold cavity and having a silicon mold member disposed in said mold recess cavity, said silicon mold member having a mold surface with a contoured surface defining an impression of said device and said structural features facing said mold cavity;
- a means for introducing a plastic material into said means for containing said mold assembly, to fill said mold cavity and said contoured surface in said silicon mold member to form said molded device having a body and molded surface corresponding to said contoured surface and said structural features; and
- a means for releasing said molded device from said mold section.

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8. (New) A mold assembly for forming a molded medical device having at least one sharp edge, said mold assembly comprising:
a mold section with a recess;
a silicon mold member, having a mold surface, said mold surface having a contoured surface including at least one needle forming recess and said mold surface defining an impression for molding at least a portion of said medical device;
wherein said mold section and said silicon mold member define at an operable mold cavity, and said silicon mold member is disposed in said recess of said mold section, and said mold surface of said silicon mold member is facing said mold cavity, said mold cavity having a closed state and an open state, wherein when said mold cavity is in a closed state, a molding material is received by said mold cavity, thereby forming said molded medical device having at least one sharp edge.
9. (New) The assembly of claim 8, wherein said needle forming recesses are about 5 to 500 microns deep.
10. (New) The assembly of claim 9, wherein said needle forming recesses are about 5 to 250 microns deep.
11. (New) The assembly of claim 8, wherein said mold cavity has a plurality of side walls and a bottom surface, and said silicon mold member is bonded to said bottom surface.
12. (New) The assembly of claim 11, wherein said silicon mold member has an outer peripheral edge corresponding to the shape of said mold cavity, wherein said silicon mold member substantially covers said bottom surface of said mold cavity.

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13. (New) The assembly of claim 11, wherein said mold surface of said silicon mold member is substantially flat.
14. (New) The assembly of claim 8, wherein said needle forming recesses in said mold surface are spaced apart uniformly to form rows and columns, each of said recesses having a depth of about 5 to about 250 microns and said recesses being spaced to provide a density of about 4 to about 100 of said recesses per mm².
15. (New) The assembly of claim 8, wherein when said mold cavity is in said open state, said molded device is removed from said cavity.
16. (New) The apparatus of claim 7, wherein said contoured surface in said silicon mold member further includes at least one needle forming portion for forming a micron or submicron sized needle having at least one sharp edge.